the deformable region **112** is preferably lifted off of the support member **160**. Furthermore, in the expanded setting, the tactile surface **115** of the deformable region **112** is preferably no longer flush with the tactile surface **115** of the undeformable region **114**, thereby defining a tactilely distinguishable formation at the tactile surface **115**, as shown in FIG. **6**B. However, the expanded and retracted settings can define any other tactilely distinguishable formations on the tactile surface **115** of the deformable region **112**, and the deformable region **112** can be in contact with the support member **160** in the expanded, retracted, or any other setting.

3F. Sensor

[0093] Like the sensor **140** of the second preferred embodiment, the sensor **140** of the third preferred embodiment preferably functions to detect an input at the tactile surface **115**. The sensor **140** can detect an input at the deformable region **112** of the tactile surface **115** and/or at the undeformable region **114** of the tactile surface **115**. The input is preferably a user touch with one or more fingers, a palm, or a stylus, though the input can be by any other input device or extremity of the user. The sensor **140** can be arranged within the cavity **125**, within the tactile layer **110**, within the substrate **120**, or within a display **150** coupled to the substrate **120** opposite the tactile layer **110**. Alternatively, the sensor **140** can be arranged between two or more aforementioned elements. The sensor **140** can be any of a pressure sensor **140**, a capacitive touch sensor **140**, an optical sensor **140**, or any other suitable type of sensor **140**.

[0094] As a person skilled in the art of user interfaces will recognize from the previous detailed description and from the figures and claims, modifications and changes can be made to the preferred embodiments of the invention without departing from the scope of this invention defined in the following claims.

We claim:

1. A user interface comprising:
- a substrate defining a fluid channel connected to a cavity;
- a tactile layer comprising a tactile surface, a deformable region of the tactile layer cooperating with the substrate to define the cavity, and an undeformable region of the tactile layer coupled to the substrate substantially proximal a perimeter of the cavity;
- a support member arranged within the cavity and disconnected from the deformable region, the support member configured to support the deformable region against substantial inward deformation;
- a displacement device coupled to the fluid channel and configured to displace fluid through the fluid channel to transition the deformable region from a retracted setting to an expanded setting that is tactilely distinguishable from the retracted setting at the tactile surface; and
- a sensor coupled to the substrate and configured to detect an input at the tactile surface.

2. The user interface of claim **1**, wherein the support member comprises one or more beads arranged within the cavity and disconnected from the substrate.

3. The user interface of claim **2**, further comprising a filter arranged within the fluid channel to prevent displacement of a bead through the fluid channel and toward the displacement device.

4. The user interface of claim **2**, wherein an interstitial between at least two of the one or more beads defines a second fluid channel configured to communicate fluid through the support member, and wherein the second fluid channel comprises a width dimension less than the thickness of the tactile layer.

5. The user interface of claim **2**, wherein at least one of the one or more beads is substantially spherical.

6. The user interface of claim **1**, wherein the support member comprises a material of a refractive index substantially similar to the refractive index of the fluid.

7. The user interface of claim **1**, wherein, in the retracted setting, the tactile surface of the deformable region is flush with the tactile surface of the undeformable region and the deformable region is in contact with the support member.

8. The user interface of claim **7**, wherein, in the expanded setting, the deformable region is lifted off of the support member.

9. The user interface of claim **1**, wherein the touch sensor is a capacitive touch sensor.

10. The user interface of claim **1** incorporated into an electronic device selected from the group consisting of: an automotive console, a desktop computer, a laptop computer, a tablet computer, a television, a radio, a desk phone, a mobile phone, a PDA, a personal navigation device, a personal media player, a camera, and a watch.

11. A user interface comprising:
- a volume of fluid;
- a substrate;
- a tactile layer comprising a tactile surface, a deformable region of the tactile layer cooperating with the substrate to define a cavity, and an undeformable region of the tactile layer coupled to the substrate substantially proximal a perimeter of the cavity;
- a support member arranged within the cavity and comprising a refractive index substantially similar to the refractive index of the volume of fluid, the support member disconnected from the deformable region and configured to support the deformable region against substantial inward deformation;
- a displacement device configured to transition the deformable region from a retracted setting to an expanded setting tactilely distinguishable from the retracted setting at the tactile surface, a portion of the volume of fluid substantially filling the volume between the support member and the deformable region in the expanded setting; and
- a sensor coupled to the substrate and configured to detect an input on the tactile surface.

12. The user interface of claim **11**, wherein the support member comprises one or more beads arranged within the cavity and disconnected from the substrate.

13. The user interface of claim **12**, wherein an interstitial between at least two of the one or more beads defines a fluid path configured to communicate fluid through the support member, wherein the fluid path comprises a width dimension less than the thickness of the tactile layer.

14. The user interface of claim **11**, wherein the support member comprises a free piston arranged within the cavity and disconnected from the substrate, the free piston coupled to the displacement device and configured to engage the deformable region to transition the deformable region from the retracted setting to the expanded setting.

15. The user interface of claim **14**, wherein the free piston is further configured to provide click feedback at the tactile surface of the deformable region given the input at the deformable region.